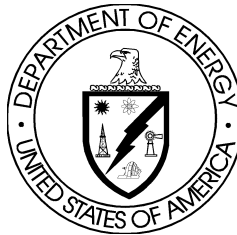


**Regulatory Unit Position on  
Important to Safety Work Authorization for the  
RPP-WTP Interim Design Period**



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## PREFACE

The Department of Energy's (DOE) Richland Operations Office (RL) issued the *TWRS Privatization Request for Proposal* (RFP) for Hanford Tank Waste Remediation System (TWRS) Privatization in February 1996. Offerors were requested to submit proposals for the initial processing of the tank waste at Hanford. Some of this radioactive waste has been stored in large underground storage tanks at the Hanford Site since 1944. Currently, approximately 54 million gallons of waste containing approximately 240,000 metric tons of processed chemicals and 250 mega-curies of radionuclides are being stored in 177 tanks. These caustic wastes are in the form of liquids, slurries, saltcakes, and sludges. The wastes stored in the tanks are defined as high-level radioactive waste (10 CFR Part 50, Appendix F) and hazardous waste (Resource Conservation and Recovery Act).

The contract concept was for DOE to enter into a fixed-price contract for the contractor to build and operate a facility to treat the waste according to DOE specifications. The TWRS Privatization Program was divided into two phases, Phase I and Phase II. Phase I was a proof-of-concept/commercial demonstration-scale effort the objectives of which were to (a) demonstrate the technical and business viability of using privatized contractors to treat Hanford tank waste; (b) define and maintain adequate levels of radiological, nuclear, and process safety; (c) maintain environmental protection and compliance; and (d) substantially reduce life-cycle costs and time required to treat the tank waste. The Phase I effort consisted of two parts: Part A and Part B.

Part A consisted of a twenty-month development period to establish appropriate and necessary technical, operational, regulatory, business, and financial elements. This included identification by the TWRS Privatization Contractors and approval by DOE of appropriate safety standards, formulation by the Contractors and approval by DOE of integrated safety management plans, and preparation by the Contractors and evaluation by DOE of initial safety assessments. Of the twenty-month period, sixteen months were used by the Contractors to develop the Part-A products and four months were used by DOE to evaluate the products.

Part B was to consist of a demonstration period to provide tank waste treatment services by the TWRS Privatization Contractors who successfully completed Part A. Demonstration was to address a range of wastes representative of those in the Hanford tanks. Part B was to be 10 to 14 years in duration. Within Part B, wastes were to be processed during a 5- to 9-year period resulting in treatment of 6 to 13 percent of the Hanford tank waste.

Phase II was to be a full-scale production phase in which the remaining tank waste would be processed on a schedule that would accomplish removal from all single-shelled tanks by the year 2018. The objectives of Phase II were to a) implement the lessons learned from Phase I; and b) process all tank waste into forms suitable for final disposal.

In May 2000, DOE chose to terminate the privatization contract and seek new bidders under a different contract strategy. The program name was also changed from the Tank Waste Remediation System to the River Protection Project (RPP). The RPP is under the direction of the Office of River Protection, which was created by Congress in 1998 to assume programmatic responsibility for the entire Tank Waste Remediation System, including the waste treatment plant (WTP).

A key element of the River Protection Project Waste Treatment Plant (RPP-WTP) is DOE regulation of safety through a specifically chartered, dedicated Regulatory Unit (RU) at RL. This regulation by the RU is authorized by the document entitled *Policy for Safety Regulation of the RPP-WTP Contractor* (referred to as the Policy) and implemented through the document entitled *Memorandum of Agreement for the Execution of Safety Regulation of the RPP-WTP Contractor* (referred to

as the MOA). The Under Secretary of Energy; the Assistant Secretary for Environment, Safety and Health (ASEH); and the Assistant Secretary for Environmental Management (ASEM) signed the Policy. The MOA is signed by the ASEH and the ASEM. The nature and characteristics of this regulation are also specified in these documents. The MOA details certain interactions among RL, the ASEH, and the ASEM as well as their respective roles and responsibilities for implementation of this regulation.

The authority of the RU to regulate the RPP-WTP Contractor is derived from the terms of the RPP-WTP Contract, and for the interim design period, from DOE Memorandum from Huntoon to French, Dated May 23, 2000. Its authority to regulate the Contractor on behalf of DOE is derived from the Policy. The nature and scope of this special regulation (in the sense that it is based on terms of a contract rather than formal regulations) is delineated in the MOA, the RPP-WTP Contract, and the documents, listed below, which are incorporated into the Contract. This special regulation by the RU in no way replaces any legally established external regulatory authority to regulate in accordance with duly promulgated regulations nor relieves the Contractor from any obligations to comply with such regulations or to be subject to the enforcement practices contained therein.

The Policy, the MOA, the RPP-WTP Contract, and the documents incorporated in the Contract define the essential elements of the regulatory program, which are being executed by the RU and to which the RPP-WTP Contractor must conform. The four radiological, nuclear and process safety-related documents incorporated in the Contract (and also incorporated in the MOA) are:

*Concept of the DOE Process for Radiological, Nuclear, and Process Safety Regulation of the RPP Waste Treatment Plant Contractor*, DOE/RL-96-0005,

*DOE Process for Radiological, Nuclear, and Process Safety Regulation of the RPP Waste Treatment Plant Contractor*, DOE/RL-96-0003,

*Top-Level Radiological, Nuclear, and Process Safety Standards and Principles for the RPP Waste Treatment Plant Contractor*, DOE/RL-96-0006, and

*Process for Establishing a Set of Radiological, Nuclear, and Process Safety Standards and Requirements for the RPP Waste Treatment Plant Contractor*, DOE/RL-96-0004.

The two non-radiological safety documents are:

*Industrial Hygiene and Safety Regulatory Plan*, RL/REG-2000-04, and

*Regulatory Unit Position on Regulation of the Contractor's Industrial Hygiene and Safety Program*, RL/REG-99-11.

In the execution of the regulatory program, the RU considers not only the relevant approaches and practices of DOE but also those of the U.S. Nuclear Regulatory Commission (NRC) and the Occupational Safety and Health Administration (OSHA). The Policy states that

"It is DOE's policy that the RPP-WTP Contractor activities be regulated in a manner that assures adequate safety by application of regulatory concepts and principles consistent with those of the Nuclear Regulatory Commission and the Occupational Safety and Health Administration."

To this end, the RU interacts with the NRC and the OSHA during development and execution of the regulatory program.

**All documents issued by the Office of Safety Regulation of the RPP-WTP Contractor are available to the public through the DOE/RL Public Reading Room at the Consolidated Information Center, Room 1012, Richland, Washington. Copies may be purchased for a duplication fee.**

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# **Regulatory Unit Position on Important to Safety Work Authorization for the RPP-WTP Interim Design Period**

## **1.0 INTRODUCTION**

In 1996, the Department of Energy (DOE) Richland Operations Office (RL) initiated a program to use private contractors to design, build, and operate a waste treatment and immobilization facility for Tank Waste at Hanford. Following the competitive phase of the project, BNFL Inc. (BNFL) was selected as the contractor to pursue this Tank Waste Remediation System Privatization (TWRS-P) effort under the TWRS-P Contract<sup>1</sup>. The TWRS-P facility is now referred to as the River Protection Project Waste Treatment Plant (RPP-WTP). Under the TWRS-P Contract, BNFL developed an initial design for the waste treatment facility. This design work was performed under radiological, nuclear, and process safety requirements and the regulatory process specified by the TWRS-P Contract. The execution of TWRS-P regulatory process during the initial design phase resulted in the development of an authorization basis for the facility. The authorization basis is the composite of information submitted to, and accepted by DOE, that responds to radiological, nuclear, and process safety requirements.

In May 2000, DOE decided to terminate the privatization contract with BNFL. A new contractor and a new contracting strategy will be used to complete the design and construction of the waste treatment facility. CH2M Hill Hanford Group, Inc. (CHG) has been assigned to continue during an interim design period with facility design work<sup>2</sup>. The interim design period is expected to be approximately six months in duration and terminate when a contractor is selected to complete the design and construction of the waste treatment plant.

The TWRS-P Contract regulatory basis<sup>3</sup>, including the authorization basis, will be incorporated in contracts associated with future RPP-WTP work<sup>4</sup>. The RL Office of Safety Regulation of the RPP-WTP Contractor (Regulatory Unit or RU) has developed this position paper to describe revision of the authorization basis to accommodate important to safety RPP-WTP work performed by CHG, and the authorization of CHG to perform that work.

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<sup>1</sup> DOE contract number: DE-AC27-96RL13308.

<sup>2</sup> ORP letter from R. T. French to M. P. DeLozier, "Contract No. DE-AC06-99RL14047 – Realignment of Responsibilities for the Hanford Waste Treatment and Immobilization Plant and Tasking for Interim Design Responsibilities," 00-ORP-035, dated June 28, 2000.

<sup>3</sup> "Regulatory basis" refers to the documents incorporated by reference in Standard 4 of the TWRS-P Contract, the authorization basis, and commitments made in docketed correspondence. Refer to RL/REG-99-09, "Regulatory Unit Position on the Tank Waste Remediation System Waste Treatment Plant Regulatory Basis (Including Authorization Agreements)," dated September 10, 1999 for more information regarding the RPP-WTP regulatory basis.

<sup>4</sup> DOE HQ memorandum from C. L. Huntoon to R. T. French, "Maintaining Safety and Quality Through Contract Transitions," dated May 23, 2000.

## 2.0 DEFINITIONS

### 2.1 Authorization Basis<sup>5</sup>

The authorization basis consists of the following documents with all approved revisions and amendments at the time of TWRS-P Contract termination<sup>6</sup>:

- Safety Requirements Document (SRD)
- Integrated Safety Management Plan (ISMP)<sup>7</sup>
- Quality Assurance Program and Implementation Plan (QAPIP)
- Radiation Protection Program (RPP)
- Employee Concerns Program (ECP)
- Initial Safety Analysis Report (ISAR)<sup>8</sup>
- Hazards Analysis Report (HAR)<sup>9</sup>

## 3.0 POSITION

Prior to performing important to safety work associated with the RPP-WTP during the interim design period, the Contractor assigned to perform the work shall obtain authorization from the Regulatory Official as described below.

- 3.1 The Contractor shall review and understand the regulatory basis, including the authorization basis.
- 3.2 The Contractor shall propose authorization basis documents be revised as necessary to (1) replace all references to the privatization contractor; (2) accept the Contractor's responsibilities described in the authorization basis for the interim design period. Revisions to authorization basis documents shall be exclusively related to meeting this objective<sup>10</sup>.
- 3.3 The Contractor shall prepare, and submit for RU approval, an authorization request consisting of the following:

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<sup>5</sup> The regulatory definition associated with the term "authorization basis" is incorporated in the appendices of the regulatory governing documents referenced in the TWRS-P contract. Additional description of the term is provided in RL/REG-97-13, "*Contractor-initiated Changes to the Authorization Basis*." The list in this document is based on the TWRS-P authorization basis documentation that is described in Section 3.3.1 of the ISMP and was submitted to the RU and subsequently approved.

<sup>6</sup> TWRS-P Contract termination occurred on June 29, 2000 (reference ORP Letter from R. T. French to P. O. Strawbridge, "Contract No. DE-AC27-96RL13308 – Notice of Termination," 00-ORP-062, dated June 29, 2000).

<sup>7</sup> Includes elements of ISAR incorporated by reference in the ISMP.

<sup>8</sup> As described in Section 3.3.1.3 of the ISMP, only those portions of the ISAR that relate to fundamental aspects of design are considered to be part of the authorization basis.

<sup>9</sup> As described in Section 3.3.1.8 of the ISMP, only those portions of the HAR that constitute bounding or significant hazards are considered to be part of the authorization basis.

<sup>10</sup> All other revisions to the authorization basis shall be in accordance with RL/REG-97-13 and the ISMP, following the completion of the authorization action described in this paper.

- 3.3.1 Redline/strikeout and "clean" versions of the draft revised (as described in Section 3.2 above) authorization basis documents.
- 3.3.2 A proposed Implementation Schedule. The schedule shall identify the activities necessary to implement the important to safety work and commitments described in the revised authorization basis documents. Specifically, the schedule shall address:
  - (1) Development and approval of contractor implementing procedures;
  - (2) Staffing and training;
  - (3) Proposed starting date for a readiness assessment by the RU (see Section 3.10); and,
  - (4) Other activities the Contractor determines are necessary to commence important to safety work in conformance with the authorization basis.
- 3.3.3 Certification that the set of radiological, nuclear, and process standards in the SRD, will provide adequate safety, comply with all applicable laws and regulations, and conform to the DOE-stipulated top-level safety standards and principles, when applied to RPP-WTP work.<sup>11</sup>
- 3.4 The RU will make the authorization request available for public comment.
- 3.5 The RU will review the authorization request using applicable RU review guidance. The RU may request additional information from the contractor to clarify or supplement material in the request.
- 3.6 Following completion of the review and resolution of public comments, the RU will issue a timely draft Safety Evaluation Report (SER) for comment by the contractor. The draft SER will be made available for public comment.
- 3.7 The RU will issue a timely final SER and either reject or approve the revisions to the authorization basis documents and the Implementation Schedule.
- 3.8 Following approval of the Contractor's revised authorization basis documents and Implementation Schedule, the contractor shall make preparations to perform important to safety work according to the approved Implementation Schedule.
- 3.9 The RU will prepare and issue a revision to RL/REG-98-05, "Inspection Program Description (IPD) for the Regulatory Oversight of RPP-WTP Contractors." The IPD revision shall address (1) a readiness assessment of the Contractor, and (2) consistency

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<sup>11</sup> This certification will supersede the certification provided by BNFL during the Standards Approval regulatory action.

with approved revisions to the authorization basis. The Contractor will be provided an opportunity to comment on the IPD and the RU will resolve the comments.

- 3.10 After the Contractor has completed implementation of its programs and assured itself that it is ready to commence important to safety work in conformance with the authorization basis, the Contractor shall provide written notification to the RU. Upon notification, the RU shall perform and document a readiness assessment as described in the IPD using appropriate RU inspection procedures.
- 3.11 The Contractor shall develop and implement corrective actions as necessary to address findings documented in the RU readiness assessment report. The RU will determine what specific corrective actions must be completed prior to work authorization.
- 3.12 Following completion of necessary corrective actions associated with the readiness assessment, the Regulatory Official will authorize Contractor important to safety work.

## 4.0 LIST OF TERMS

BNFL	BNFL Inc.
CHG	CH2M Hill Hanford Group
DOE	U.S. Department of Energy
ECP	Employee Concerns Program
HAR	Hazards Analysis Report
IPD	Inspection Program Description
ISAR	Initial Safety Analysis Report
ISMP	Integrated Safety Management Program
QAPIP	Quality Assurance Program and Implementing Plan
RL	Richland Operations Office
RPP-WTP	River Protection Program-Waste Treatment Plant
RU	Regulatory Unit
SRD	Safety Requirements Document
TWRS-P	Tank Waste Remediation System Privatization

## 5.0 REFERENCES

10 CFR 835, "Occupational Radiation Protection," *Code of Federal Regulations*, as amended.

*Employee Concerns Program* (ECP), BNFL-5193-ECP-01, Rev. 0, BNFL Inc., Richland, Washington, 1997.

*Hazards Analysis Report* (HAR), BNFL-5193-HAR-01, Rev. 0, BNFL Inc., Richland, Washington, 1997.

*Initial Safety Analysis Report (ISAR)*, BNFL-5193-ISAR-01, Rev. 0, BNFL Inc., Richland, Washington, 1998.

*Integrated Safety Management Plan (ISMP)*, BNFL-5193-ISP-01, Rev. 4, BNFL Inc., Richland, Washington, 1998.

*Quality Assurance Program and Implementation Plan (QAPIP)*, BNFL-5193-QAP-01, Rev. 4, BNFL Inc., Richland, Washington, 1998.

*Radiation Protection Program for Design*, BNFL-5193-QAP-01, Rev. 4, BNFL Inc., Richland, Washington, 1998.

RL/REG-97-13, *Regulatory Unit Position on Contractor-Initiated Changes to the Authorization Basis*, Rev. 4, U.S. Department of Energy, Richland Operations Office, 1998.

RL/REG-98-05, *Inspection Program Description for the Regulatory Oversight of TWRS Privatization Contractors*, Rev. 3, U.S. Department of Energy, Richland Operations Office, 1999.

RL/REG-98-14, *Regulatory Unit Position on New Safety Information and Back-fits*, Rev. 1, U.S. Department of Energy, Richland Operations Office, 1998.

RL/REG-98-06, *Corrective Action/Enforcement Action Program Description*, Rev. 2, U.S. Department of Energy, Richland Operations Office, 1998.

RL/REG-99-09, *Regulatory Unit Position on the Tank Waste Remediation System-Privatization Waste Treatment Plant (WTP) Regulatory Basis (Including Authorization Agreements)*, Rev. 1, U.S. Department of Energy, Richland Operations Office, 1999.

*Safety Requirements Document*, BNFL-5193-SRD-01, Volumes I and II, Rev. 2, BNFL Inc., Richland, Washington, 1998.



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